

TORNADO OF JANUARY 31, 1908.

By W. S. BILDEN, Section Director. Dated Vicksburg, Miss., February 17, 1908.

A tornado of remarkable energy and duration formed in the eastern portion of Jefferson County, Mississippi, at about 1:45 p. m., January 31, 1908, and moved in an easterly and east-northeasterly direction across Copiah County and to central Simpson County, covering a total distance of about 60 miles in approximately one hour and forty-five minutes.

So far as could be learned the tornado was destructive thruout its entire course, and its path varied from 100 yards to one-half mile in width. Seven people were reported killed by the storm, and thirty injured, and the value of property destroyed was conservatively estimated at \$100,000. Fortunately the country thru which it past is sparsely settled, otherwise the loss of life would have been much greater.

During the forenoon of January 31, fresh to brisk southerly winds and cloudy weather, with occasional light showers, prevailed over Mississippi in connection with a large barometric depression central over Oklahoma at 7 a. m. Toward noon the temperature rose rapidly over southern Mississippi, reaching a maximum near or above 70°. At Vicksburg the barometer fell steadily until 1:30 p. m., when the reading was 29.64 inches, and a few minutes after 2 p. m. the wind veered to west and attained a maximum velocity of 41 miles per hour at 2:13 p. m.

The tornado cloud was first seen passing over Delmar shortly before 2 p. m., moving in an easterly direction. It appeared black and was attended by a high wind, heavy rainfall and considerable hail.

Observers who saw the destructive cloud generally described it as being black and funnel-shaped, and the noise emanating from it was referred to as resembling the sound made by a heavily loaded freight train running at a high rate of speed. At some places near the path of the storm the thunder and lightning were severe, while at other places they were only moderate. The rainfall was generally heavy, especially just after the passage of the tornado; and many places reported a light fall of hail.

At 2 p. m. the tornado past close to Union Church in southeastern Jefferson County, and was described as follows by Prof. A. C. Wharton at that village:

During the morning and forenoon of the 31st the sky was overcast and the temperature rose, reaching 71°. Toward noon the clouds thickened and grew darker, especially along the northern and western horizon. Just before 2 p. m. they became very threatening and soon attention was attracted by the roar of distant winds. The clouds were in tumultuous agitation in the west and were rapidly driven in our direction. Then the funnel-shaped cloud became visible, and this, together with the hoarse bellowing of the now nearby wind, apprised us that we were witnessing a tornado. It passed within about 200 yards of us, apparently from a due westerly direction, and it was accompanied and followed by torrents of rain. We saw trees uprooted, or snapped off midway of the trunk, and noticed much small debris flying thru the air, torn from trees and house tops. From our first observation until it had swept by us was, I think, not over one and one-half or two minutes.

Altho its path was nearly one-half mile wide, its most destructive energy was confined to a track about 300 or 400 yards wide. Observers who were watching the storm from points just outside its path, reported that buildings were hidden from view by a momentary darkness, when enveloped by the whirl. On the almost instantaneous disappearance of the smoke-like veil, such buildings were seen to be totally destroyed. The darkness, according to them, was apparently caused by clouds being drawn down in the vortex until they came into literal contact with the ground. The number of buildings destroyed within a mile of here was large; most of them were of small value, being negro cabins, barns, etc. Nobody was fatally hurt.

After passing Union Church the tornado moved east-northeast, plowing its way across fields and thru woodlands, demolishing fences, trees, cotton houses, negro cabins, plantation homes, cotton gins, saw mills, etc. It reached Homochitto at 2:20 p. m. and ten minutes later it was mowing a path thru the Bowerton neighborhood. Mr. A. M. Millsaps, postmaster at Bowerton, stated that it was the most destructive storm that ever visited this community and that all stock in the path of the tornado were killed. He reported that a tenant house on his farm was entirely blown away and no part of it had been found; there were five grown negroes in this house at the time of this occurrence and not one of them received a scratch.

The heaviest losses occurred at Martinsville which was struck at 2:45 p. m., the path of the tornado crossing the railroad one-half mile north of the depot. Twelve families were left homeless, and it was in this place that six of the seven persons killed met death.

Continuing its course in a nearly straight line the funnel-shaped cloud continued its work of devastation, passing north of Ashley and crossing the Pearl River at Georgetown, where it was reported as being low on the ground. Sixteen people were injured at Georgetown.

In the vicinity of Bowers at about 3:30 p. m., the tornado lost its destructive violence, but the rainfall was very heavy in that section causing small streams to overflow their banks. Many places in central and western Simpson County, some as far as twelve miles from the storm track, reported the atmosphere to be filled with leaves, twigs, and small branches of trees.

It was the most destructive atmospheric disturbance that has visited Copiah County since the Beauregard tornado of 1883, in which nearly 100 people were reported to have been killed.

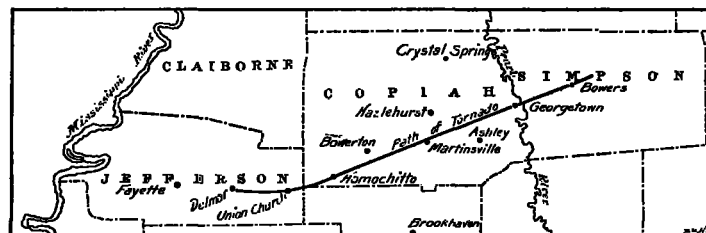


FIG. 1.—Path of tornado in southeastern Mississippi.

THE WEATHER OF THE MONTH.

By Mr. P. C. DAY, Assistant Chief, Division of Meteorological Records.

PRESSURE.

The distribution of mean atmospheric pressure for March, 1908, over the United States and Canada, is graphically shown on Chart VI, and the average values and departures from the normal are shown for each station in Tables I and III.

Mean pressure above the normal for March prevailed over nearly all portions of the United States and apparently over the greater part of Canada, the only exception being a small area including the upper Mississippi Valley and the western and northern portions of the Lake Superior district, where average pressure slightly below the normal was maintained.

The mean pressure ranged from .10 to .15 inch above the

normal over the Atlantic and middle and north Pacific coast districts, maintaining average values above 30.20 inches over northern California and western Oregon.

There was a general increase in pressure from that of the preceding month on both the Atlantic and Pacific coasts, the increase along the Pacific coast amounting to more than .10 inch. Over all interior districts of the United States and Canada the average pressure was less than that for February, 1908.

The general distribution of the more or less permanent areas of high and low pressure was such as to give prevailing southerly winds over Texas, the middle and lower Mississippi

Valley, and thence eastward to the Atlantic coast, including the Ohio Valley and lower Lake region. Over New England and from the upper Lake region westward to the Rocky Mountains the winds were mainly from the northwest, while westerly winds prevailed over the Plateau and Pacific coast districts.

Over nearly all interior districts there was less storm activity than usually prevails in March, and this condition was general also over the central and south Pacific coast districts. Over the southern portion of the Great Plains the decrease in wind movement ranged from 15 to 35 per cent.

Along the Gulf and Atlantic coasts and from Lake Superior westward along the northern boundary to the Pacific there was a general excess of storm activity and a consequent increase in the average wind velocity over those districts.

TEMPERATURE.

March, 1908, like the same month of 1907, was an unusually warm month over nearly all portions of the United States. No periods of widespread or intense heat occurred, but the weather was uniformly mild throughout the month.

From the south Atlantic coast westward to the Rocky Mountains the average temperature ranged from 6° to more than 8° above the normal, and over most of the Gulf States there were but few days during the month when the temperature was not above the seasonal average.

A slight deficiency prevailed along the north Pacific coast, also over the northern Rocky Mountain districts and thence eastward along the extreme northern border to the Lake Superior district, extending across the border into the Northwest Provinces of Canada, where the temperature ranged from 4° to 6° below the normal.

High maximum temperatures prevailed over the Gulf and South Atlantic States from the 17th to 19th and at scattered points on other dates, but aside from the above the extremes of temperature were not abnormal.

Temperatures as low as 32° were recorded in the northern portions of the cotton-growing States, over central and western Texas, and over the whole of New Mexico, Arizona, and California, except at the lower elevations and along the coast. Frosts were frequent over Arizona and the greater part of California, but no severe cold weather for the season occurred. Minimum temperatures from 10° to slightly more than 20° below zero were recorded in northern New England, and from the Upper Michigan Peninsula westward to the Rocky Mountains. The remaining portions of the United States were remarkably free from low temperatures.

PRECIPITATION.

Over the greater portion of the United States the month was one of deficient precipitation. In the Ohio Valley there were several periods of heavy precipitation, causing high waters in the tributaries of that river, and there were local heavy rains in portions of the Middle Atlantic and east Gulf States, and snowfall was heavy from the upper Lakes westward to the Rocky Mountains; elsewhere the precipitation was generally light.

Marked deficiencies occurred over New England, the Florida Peninsula, most of the Gulf States, and California. Over the Florida Peninsula the total fall was but little more than 10 per cent of the average, and over most of California it was scarcely one-third the usual fall, practically no rain occurring after the 5th of the month.

Over nearly all portions of the Great Plains, Mountain, and Plateau districts the precipitation was less than 1 inch, and in large sections of the southern Rocky Mountain slope barely more than traces of rain occurred.

Over the coast districts of Washington and in the mountains of that State and Oregon there were heavy local falls, ranging

from 10 to as much as 25 inches, depending upon the exposure, the heaviest precipitation occurring on the western slopes of the Coast and Cascade ranges of mountains. The distribution of precipitation for the month is graphically presented on Chart IV by appropriate shading or by figures representing the actual fall.

SNOWFALL.

The distribution of the total snowfall for the month is graphically shown on Chart VII.

In general it was light over nearly all eastern and southern districts and to a great extent over the mountain and Plateau districts of the West.

From the upper Lakes westward along the northern tier of States to the Rocky Mountains, the monthly snowfall was rather heavy, ranging from 10 to 20 inches, and in portions of northern Michigan from 20 to more than 35 inches.

At the end of the month the ground was bare of snow, except over northern New England, the northern portions of Michigan, Wisconsin, and Minnesota, in portions of North Dakota and Montana, where snow was falling at the end of the month, and in the high levels of the mountain and Plateau districts.

In general there was less snow in the mountains than usual at the season of the year, but the prospects were good for an average flow of water over most districts, due to the hardened condition of the snow, much of which, having fallen early in the season, has become hardened by alternate thawing and freezing and is therefore in the best condition to furnish water late in the season.

HUMIDITY AND SUNSHINE.

Despite the general lack of precipitation over the South Atlantic and Gulf States and the southern portions of the slope and mountain regions, the relative humidity over those districts ranged from 5 to 10 per cent above the average. It was also above the average over the Middle Atlantic States, Kentucky, and Tennessee, and over the northern portions of the States from Lake Superior to the Rocky Mountains. Over northern New England and the interior districts from the lower Lakes westward to the Pacific coast and over southern California, there was a general deficiency in the average relative humidity.

Over the south Atlantic and east Gulf States and the Florida Peninsula the amounts of sunshine ranged from 60 to 80 per cent of the possible. Over most of California and southwestern Arizona it ranged from 70 to 80 per cent, and there was generally an abundance of sunshine over the districts west of the Mississippi River, except along the northern border from the Great Lakes westward to the Pacific.

In general the month was unusually favorable for all outdoor occupations from the Atlantic to the Pacific, except over portions of the Ohio Valley and along the northern border west of the Great Lakes, where, on account of the frequent occurrence of snow or rain and the absence of the sunshine, outdoor occupations were largely at a standstill.

WEATHER IN ALASKA.

Reports covering the coast districts from the southern extremity to the Alaska Peninsula show the prevalence of moderate temperatures during the month, with an apparent excess of clear, pleasant weather. Precipitation was comparatively light, except over the districts around the mouth of the Copper River and about Cook Inlet, where considerable snow occurred. A heavy snowstorm prevailed over those districts from about the 18th to 22d, the fall at Fort Liscum during that period aggregating nearly 4 feet. At the end of the month heavy snow still remained on the ground in the districts near the coast from Mount St. Elias westward to Cook Inlet, the depths ranging from 3 to nearly 6 feet. There was apparently no great amount of snowfall in the interior districts.

Severe cold prevailed over the eastern interior districts during the middle portion of the month, temperatures slightly more than 50° below zero being recorded in the vicinity of the Arctic Circle, and more than 40° below in the Klondike districts.

An unusually extensive aurora was observed at numerous points in the Territory during the nights of the 26th and 27th, some of the observers stating it was the most brilliant and extensive display ever witnessed in the Territory. Reports from Canada indicate that it was observed over nearly all portions of that country, and in the United States it was observed over the entire northern portion from the Atlantic to the Pacific, extending as far south as Virginia and North Carolina and the lower Missouri Valley.

In Canada.—Director R. F. Stupart says :

The mean temperature for March exceeded the average over the lower mainland of British Columbia, southern Alberta, and a large portion of Ontario; elsewhere in Canada the temperature was subnormal.

The precipitation, which in all the provinces was part rain and part snow, was below the average over the larger portion of the Dominion. The amount recorded near the coast of British Columbia, however, was nearly double the normal, and over northern Alberta, part of Saskatchewan, northwestern Quebec, Prince Edward Island, and in Cape Breton the average was exceeded.

At the close of the month the ground was bare of snow in southern Alberta, the Peninsula of Ontario, southern New Brunswick, and Nova Scotia; elsewhere in Canada the covering was light, except in the northern portions of Saskatchewan and Ontario, where the depth of snow on the ground exceeded 20 inches. In Quebec the amount on the ground ranged from 10 inches at Montreal to 42 inches at Quebec.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
New England	12	34.6	+ 1.6	+ 0.8	+ 0.3
Middle Atlantic	16	44.8	+ 4.6	+ 2.2	+ 0.7
South Atlantic	10	60.2	+ 6.4	+ 2.5	+ 0.8
Florida Peninsula*	8	70.2	+ 3.5	+ 1.5	+ 0.5
East Gulf	11	64.4	+ 7.1	+ 3.7	+ 1.2
West Gulf	10	63.8	+ 6.5	+ 11.1	+ 3.7
Ohio Valley and Tennessee	13	50.7	+ 6.4	+ 5.6	+ 1.9
Lower Lake	10	35.4	+ 3.1	+ 1.2	+ 0.4
Upper Lake	12	29.8	+ 2.6	+ 7.0	+ 2.3
North Dakota*	9	21.7	+ 0.3	+ 20.1	+ 6.7
Upper Mississippi Valley	15	41.1	+ 5.0	+ 12.7	+ 4.2
Missouri Valley	12	41.8	+ 5.7	+ 19.5	+ 6.5
Northern Slope	9	32.0	+ 1.2	+ 11.7	+ 3.9
Middle Slope	6	48.3	+ 5.8	+ 18.1	+ 6.0
Southern Slope*	7	58.0	+ 6.0	+ 13.2	+ 4.4
Southern Plateau*	12	51.0	+ 2.1	+ 5.1	+ 1.7
Middle Plateau*	10	39.7	+ 1.7	+ 5.3	+ 1.8
Northern Plateau*	12	38.5	+ 1.3	+ 7.3	+ 2.4
North Pacific	7	44.0	- 0.2	+ 3.1	+ 1.0
Middle Pacific	8	52.9	+ 0.5	+ 1.8	+ 0.4
South Pacific	4	56.9	+ 1.8	+ 3.7	+ 1.2

* Regular Weather Bureau and selected cooperative stations.

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	75	0	Missouri Valley	68	- 4
Middle Atlantic	74	+ 6	Northern Slope	67	- 5
South Atlantic	79	+ 4	Middle Slope	65	- 1
Florida Peninsula	81	+ 4	Southern Slope	52	- 3
East Gulf	80	+ 7	Southern Plateau	41	+ 3
West Gulf	77	+ 5	Middle Plateau	52	- 4
Ohio Valley and Tennessee	72	+ 1	Northern Plateau	61	- 5
Lower Lake	76	0	North Pacific	80	+ 2
Upper Lake	77	- 2	Middle Pacific	67	- 6
North Dakota	80	+ 2	South Pacific	64	- 7
Upper Mississippi Valley	72	- 3			

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		Inches.	Inches.
New England	12	3.82	76	-0.9	-1.0
Middle Atlantic	16	2.75	75	-0.9	-0.6
South Atlantic	10	3.70	86	-0.6	-0.9
Florida Peninsula*	8	0.40	12	-2.8	-4.1
East Gulf	11	4.62	79	-1.2	-0.8
West Gulf	10	2.19	71	-0.9	-1.5
Ohio Valley and Tennessee	13	5.08	113	+0.6	-0.1
Lower Lake	10	2.92	111	+0.8	+1.0
Upper Lake	12	2.24	100	0.0	+0.3
North Dakota*	9	1.33	143	+0.4	+0.7
Upper Mississippi Valley	15	1.93	79	-0.5	-0.4
Missouri Valley	12	1.36	69	-0.6	-0.1
Northern Slope	9	1.17	109	+0.1	-0.3
Middle Slope	6	0.36	25	-1.1	-0.8
Southern Slope*	7	0.48	38	-0.7	-1.0
Southern Plateau*	12	0.55	58	-0.4	-0.1
Middle Plateau*	10	0.77	56	-0.6	-0.9
Northern Plateau*	12	0.84	68	-0.5	-1.8
North Pacific	7	5.08	104	+0.2	-1.4
Middle Pacific	8	1.11	29	-2.7	-1.6
South Pacific	4	0.57	22	-2.0	-0.3

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	6.3	+ 0.7	Missouri Valley	5.7	+ 0.1
Middle Atlantic	6.1	+ 0.6	Northern Slope	5.9	+ 0.6
South Atlantic	4.6	+ 0.1	Middle Slope	4.8	+ 0.4
Florida Peninsula	2.6	- 1.4	Southern Slope	4.9	+ 0.7
East Gulf	5.0	+ 0.3	Southern Plateau	3.5	+ 0.5
West Gulf	5.3	+ 0.1	Middle Plateau	4.0	- 0.9
Ohio Valley and Tennessee	6.7	+ 0.8	Northern Plateau	6.2	- 0.3
Lower Lake	7.2	+ 0.8	North Pacific	6.7	+ 0.1
Upper Lake	6.7	+ 0.8	Middle Pacific	3.3	- 1.7
North Dakota	6.6	+ 1.1	South Pacific	2.9	- 1.6
Upper Mississippi Valley	6.0	+ 0.5			

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Amarillo, Tex.	5	53	sw.	North Head, Wash.	10	56	se.
Buffalo, N. Y.	7	50	sw.	Do.	12	62	s.
Do.	11	51	sw.	Do.	13	66	s.
Burlington, Vt.	6	50	s.	Do.	15	60	se.
Do.	26	70	s.	Do.	24	74	se.
Do.	28	51	s.	Oklahoma, Okla.	5	58	s.
Canton, N. Y.	26	50	sw.	Pittsburg, Pa.	15	67	w.
Chicago, Ill.	6	54	w.	Point Reyes Light, Cal.	16	60	nw.
Cleveland, Ohio	6	52	sw.	Do.	17	60	nw.
Do.	26	56	s.	Do.	18	52	nw.
Columbus, Ohio	15	70	w.	Do.	24	50	nw.
Detroit, Mich.	6	54	sw.	Do.	26	56	nw.
El Paso, Tex.	5	56	w.	Do.	27	56	nw.
Jacksonville, Fla.	24	68	s.	Do.	28	52	nw.
Kansas City, Mo.	5	56	s.	Do.	29	52	nw.
Do.	6	54	s.	Do.	30	65	nw.
Do.	26	54	s.	Do.	31	61	nw.
Modena, Utah	25	50	sw.	Pueblo, Colo.	5	55	w.
Mount Tamalpais, Cal.	16	56	nw.	Do.	6	50	w.
Do.	17	58	nw.	Richmond, Va.	15	52	nw.
Do.	21	52	ne.	Southeast Farallon, Cal.	17	50	nw.
Do.	24	60	nw.	Syracuse, N. Y.	6	50	s.
Do.	25	58	nw.	Do.	15	52	w.
Do.	26	72	nw.	Do.	26	52	s.
Do.	27	62	nw.	Tatoosh Island, Wash.	12	54	s.
Do.	30	64	nw.	Do.	13	50	s.
Do.	31	64	nw.	Do.	15	52	s.
Mount Weather, Va.	19	61	nw.	Do.	17	50	w.
Nantucket, Mass.	15	56	sw.	Do.	24	52	s.
New York, N. Y.	15	51	w.	Toledo, Ohio	6	57	sw.
Do.	16	57	nw.	Do.	26	54	sw.
North Head, Wash.	1	50	s.	Do.	28	55	w.